



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/771,052	01/26/2001	Veijo Vantinen	324-010115-US(PAR)	7249

7590

11/30/2006

Clarence A. Green
PERMAN & GREEN, LLP
425 Post Road
Fairfield, CT 06430

EXAMINER

MEHRPOUR, NAGHMEH

ART UNIT

PAPER NUMBER

2617

DATE MAILED: 11/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/771,052	Applicant(s) VANTTINEN, VEIJO	
	Examiner Naghmeh Mehrpour	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>9/18/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed reference listed in the information Disclosure Submitted on 09/18/06 have been considered by the examiner (see attached PTO-1449

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claims 1-16, 18-33**, are rejected under 35 U.S.C. 102(e) as being anticipated by over Bull et al. (US Patent Number 2003/0148774)

Regarding claims 1, 18, Bull teaches a method/packet-switched radio system comprising:

a network part of the radio system, which comprises a core network (SGSN, 3G-MSC, GMLC-HLR) (0082) and a radio network connected to the core network (0080) radio UM connection from the radio network to a subscriber terminal (0017, 0080, 0082, 0219); and

the network part comprising location service means for locating the subscriber terminal (0082); and

the subscriber terminal comprises means for transmitting a request message for location service to the core network via the radio network (0029);

the network part comprises means for performing at least one function required in the request message and means for transmitting a response message to the subscriber terminal via the radio network (0073).

Regarding claims 2, 19, Bull teaches a method/a radio system wherein the request message relates to one of the following location service functions (0029):

determination of the subscriber terminal location, informing of an outside client of the radio system of the subscriber terminal location, transmission of location assistance data to the subscriber terminal (0080, 0082).

transmission of a ciphering key for decrypting the location assistance data to the subscriber terminal (0114-0115).

Regarding claims 3, 20, Bull teaches method/a radio system wherein the information included in the request message comprises desired quality of service of the requested location service (0121-0121, 0216).

Regarding claims 4, 21, Bull teaches a method/a radio system wherein the other information comprises at least one of the following parameters:

receiving power of the serving cell, receiving power of at least one neighboring cell, charge level of the battery in the subscriber terminal, information on the conditions at the location of the subscriber terminal, identity of a separate device connected to the subscriber terminal (0120, 0121, 0270, 0290).

Regarding claims 5, 22, Bull teaches a method/a radio system wherein the subscriber terminal comprises means for inserting at least part of the information included in the request message received by the core network into the request message (0302).

Regarding claims 6, 23, Bull teaches a method/a radio system wherein the radio network comprises means for inserting at least part of the information included in the request message received by the core network into the request message (0302).

Regarding claims 7, 24, Bull teaches a method/a radio system wherein, if the function is location of the subscriber terminal, a special location procedure will be performed (page 2 section 0031). More accurate location information can be obtained through a differential GPS. In addition to the GPS, any other similar system capable of providing reliable location information can be used for this. There are several other proposals for providing location information that is more accurate than the information that is based on cell coverage area. It is also possible to have a system where several different location service accuracy classes are provided, wherein the method used for the location determination depends of the requested accuracy. For special location

procedures, the required accuracy may be indicated e.g. by so called quality of service (QoS) parameters included in a location information request (0066).

Regarding claims 8, 25, Bull teaches a method/a radio system wherein the core network comprises means for locating the subscriber terminal on the basis of the information included in the request message (0073).

Regarding claims 9, 26, Bull teaches a method/a radio system, wherein the procedures required by the location service comprise receiving signals in the subscriber terminal and measuring them, or transmitting signals from the subscriber terminal (0093, 0119, 0139). The power measurement is based on the signal received.

Regarding claims 10, 27, Bull teaches method/a radio system wherein the signals received in the subscriber terminal to implement the location service comprise signals transmitted by the radio system including signals transmitted by other base stations of the radio system than by that of the serving cell, or the signals transmitted by a satellite of the GPS system (0066).

Regarding claims 11, 28, Bull teaches method/a radio system wherein the network part of the radio system comprises means for checking whether the location of the subscriber terminal carried out corresponds to the target set for the quality of service (0216).

Art Unit: 2617

Regarding claims 12, 29, Bull teaches a method/a radio system wherein, if the target set for the quality of service is not achieved, the network part will perform a location service, which offers a better quality of service (020, 0216). When the multi-path increases, the target quality of service is not achieved.

Regarding claims 13, 30, Bull teaches a method/a radio system wherein tracing of the route traveled by the subscriber terminal is performed so that the subscriber terminal 40 at regular intervals transmits a request message requesting location of the subscriber terminal (0105).

Regarding claims 14, 31, Bull teaches a method/a radio system wherein tracing of the route traveled by the subscriber terminal is performed so that one parameter to be added to one location request is a definition of the need to determine the location of the subscriber terminal at regular intervals (0105).

Regarding claims 15, 32, Bull teaches a method/a radio system wherein the outside client of the radio system is informed of the location of the subscriber terminal by the core network, by the subscriber terminal (0073, 0285).

Regarding claims 16, 33, Bull teaches a radio system wherein the response message contains at least one of the following pieces of information: the location of the subscriber terminal, location assistance data, a ciphering key for decrypting the

location assistance data, an error code, information on whether location information on the subscriber terminal is to be submitted to an outside client (0080, 0114, 0115).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 17, 34**, are rejected under 35 U.S.C. 103(a) as being unpatentable over Bull et al. (US Patent Number 2003/0148774) in view of Korpela (US Patent Number 6,311,055).

Regarding claims 17, 34, Bull fails to teach a method/a radio system wherein the request message and the response message are messages of protocol layers that correspond to the third layer of the OSI model. However Korpela teaches wherein the mobile of third generation known by universal mobile telecommunications system (UMTS) transferred amount of data most preferably in the radio resource control (LLC) of layer 3 structure according to International Standardization Organization (OSI) (col 4 lines 11-17, lines 32-36). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the above teaching of Korpela with Bull, in order to determine whether the identified mobile is still connected to the voice channel of the system for the purpose of detecting fraud. In order to determine a bill which is proportional to the transformed amount of payload data.

Response to Arguments

6. Applicant's arguments filed 9/18/06 have been fully considered but they are not persuasive.

In response to the applicant's argument that "*there is not disclosure that the reference teaches 'request message' for a location service*".

The Examiner asserts that the present invention relates generally to methods and apparatus for locating wireless devices, also called mobile stations (MS), such as those used in analog or digital cellular systems, personal communications systems (PCS), enhanced specialized mobile radios (ESMRs), and other types of wireless communications systems. More particularly, but not exclusively, Bull teaches the use of prescribed network message sequences in initiating, or triggering, location-based service applications and re-use of existing radio interface parameters within such message sequences to provide low-accuracy location or to allow tuning of specialized receivers for high accuracy location for a particular subscriber. The system may also be configured to locate idle mobile devices in a network by requesting the Gateway Mobile Location Center (GMLC) to submit Any Time Interrogation (ATI) queries to the HLR. Submission of ATI queries to the HLR can result in a call being placed to the wireless device by the network, using supplementary services. The call placed to the wireless device by the network can page and authenticate the wireless device without placing the wireless device on a traffic channel or otherwise notifying the subscriber of the call. During the paging and authentication messaging, the system can use

U-TDOA to process and accurately determine the location of the wireless device.

A lower accuracy CGI+TA location is automatically generated by this transaction.

Acting as a GSM Service Control Function (gsmSCF), the GMLC may use ATI to request information (e.g., subscriber state and location information) from the HLR at any time. The ATI procedure can be used to transition the MS from an idle state to an active signaling state which then can be located with high-accuracy by the wireless location system. The SMLC 12 is preferably a high volume location-processing platform. The SMLC 12 contains U-TDOA and multipath mitigation algorithms for computing location, confidence interval, speed, and direction of travel. The SMLC 12 can also determine which wireless phones to locate based upon triggering from the Link Monitoring System (LMS) 11 or requests from the Lb interface 54 to an infrastructure vendor's Base Station Controller (BSC) 96 (or MSC 50 in some cases). The SMLC 12 is typically co-located at the operator's BSC 96 but can also be remotely distributed. The primary functions of the SMLC 12 are to receive reports on signal detection from the RNMs 82, to perform location processing, and to calculate the location estimate for each signal. The SMLC 12 manages the network and provides carrier access to location records. The SMLC 12 is responsible for the collection and distribution of location records. The SMLC 12 also maintains configuration information and supports network management.

In response to the applicant's argument "*that Bull does not teaches using packet switch connections between the core network*"

The Examiner asserts Bull teaches the Gateway GPRS Support Node (GGSN) 46 acts as a system routing gateway for the GPRS network. The GGSN 46 is a connection to external packet data networks (e.g., public internet) and performs the task of billing, routing, security firewalling, and access filtering. The Gateway MSC (GMSC) 44 acts as a bridge for roaming subscribers to visited MSCs in other operator's networks. Both control signaling and traffic trunks are setup via the GMSC 44. The Um 15 is the GSM radio interface. The Uu 17 is the UMTS radio interface. The Iub interface 90 is located on a UMTS network and is found between the RNC (Radio Network Controller) 70 and the NodeB 86. The Iupc 72 interconnects the UMTS RNC 70 with the SMLC (also called the SAS) in the UMTS network for location estimation generation. The Iu-CS (Circuit Switched) interface 62 connects the UMTS RNC 70 with the circuit switched communications oriented network (the MSC) 50. The Iu-PS (Packet Switched) interface 74 connects the UMTS RNC 70 with the packet switched communications oriented network (SGSN) 68. The Gb interface 66 interconnects the BSC 96 with the SGSN 68 allowing for routing of GPRS communications. Similarly a GPRS mobile can perform a Routing Area Update in the Ready and Standby state. The RAU can be triggered when the mobile crosses a RA (Routing Area) boundary, or periodically (The periodicity being set by the carrier network). A RAU can also be performed when the mobile moves from the Idle to the Standby state as will typically happen when the mobile is powered on. Execution of a RAU caused by crossing a LAC boundary can be accompanied by a LAU for mobile devices with both packet data (GPRS) and voice capability (GSM/UMTS).

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

8. **Any responses to this action should be mailed to:**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Naghmeh Mehrpour whose telephone number is 571-272-7913. The examiner can normally be reached on 8:00- 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold be reached (571) 272-7905.

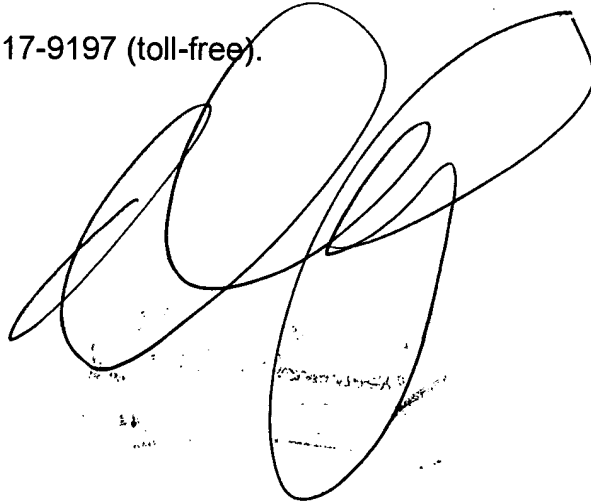
The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2617

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NM

November 27, 2006

A large, stylized handwritten signature in black ink, consisting of several overlapping loops and curves, positioned to the right of the date.